The syntax of floating quantifiers: stranding revisited
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Chapter 1: Introduction and Theoretical Foundations

0. Introduction

The phenomenon of floating quantifiers has been a topic of discussion in the field of linguistics for decades. A floating quantifier is a quantifier that is not adjacent to the DP that it modifies. The following French sentences from Sportiche (1988) illustrate the phenomenon:

(1) a. Tous les enfants ont vu ce film.
    all the children have seen this film

b. Les enfants ont tous vu ce film.
    the children have all seen this film

For a long time linguists followed the so-called Adverbial Analysis of floating quantifiers. That is, they assumed that floating quantifiers occupied adverbial positions. This assumption was based on the observation that the position occupied by floating quantifiers is frequently indistinguishable from the position occupied by certain adverbs, which suggests that floating quantifiers, like adverbs, are adjuncts to verbal phrases. The following sentences illustrate this:

(2) a. The students all entered the classroom.

b. The students probably entered the classroom.

c. The students slowly entered the classroom.

d. The students quietly entered the classroom.

e. The students stupidly entered the classroom.

Most of the first proponents of the Adverbial Analysis, including Belletti (1982) and Dowty and Brodie (1984), claimed that floating quantifiers occupied adverbial positions because they were base-generated in those positions, as adjuncts to verbal phrases. Another important aspect of the Adverbial Analysis during its initial years was the claim that floating quantifiers seemed to be a kind of anaphoric adverbial that had to be bound by an antecedent. The quantifier tous (all) in (1b) would thus be considered to be bound by the DP les enfants (the children). Discussions of the anaphoric nature of floating quantifiers can be found in Jaeggli (1982), Belletti (1982) and Kayne (1983). When I use the term Adverbial Analysis in this thesis, I mean an analysis in which floating quantifiers are base-generated as adjuncts to verbal phrases and need a relationship with an antecedent.

There are at least four weaknesses in the Adverbial Analysis as it was originally developed. One weakness is that the obvious relationship between the two sentences in (1) is not accounted for. There is no discernable difference in meaning between (1a) and (1b), and in both sentences the quantifier tous (all) takes scope over the DP les enfants (the children). Under the Adverbial Analysis, which treats non-floating quantifiers as adjuncts to nominal phrases and floating quantifiers as
Adjuncts to verbal phrases, (1a) and (1b) cannot be derived from a common base-
structure, so it seems that a significant generalisation is missed.

Another weakness in the Adverbial Analysis is that it cannot convincingly explain why floating quantifiers, if they are simply adverbs, have to agree in Case and Φ-
features with their associated NP or DP. The following example from French shows that floating quantifiers are subject to Φ-feature agreement:

(3) Les femmes étaient toutes/*tous bien vêtues.
the women were all all well dressed
(fem.) (fem.) (masc.)

The following sentence from German shows that floating quantifiers are also subject to Case agreement:

(4) Den Studenten habe ich allen/*alle ein Buch gegeben.
the students have I all all a book given
(dat.) (dat.) (acc.)

Yet another weakness in the Adverbial Analysis is the fact that it cannot explain why floating quantifiers seem to require a c-commanding, local antecedent. This is not what one would expect of adverbs. The following French example from Sportiche (1988) illustrates this:

(5) *Les enfants l'ont persuadé [de tous acheter ce livre].
the children him have persuaded to all buy this book

One final weakness in the Adverbial Analysis that I would like to mention is the fact that it has very little to say about what kind of adverb a floating quantifier is and how its positioning is determined. Jackendoff (1972) distinguished between three types of adverbs that appear adjacent to a verbal element, namely, manner adverbs, sentential adverbs and subject-oriented adverbs. Floating quantifiers do not seem to correspond to any one of these types of adverb. Let’s look at each type individually.

Manner adverbs, unlike floating quantifiers, modify an action and must therefore be adjacent to a verb:

(6) a. The students have all carefully read the book.
   b. *The students have carefully all read the book.

Also, if two or more manner adverbs are used together, they must be conjoined. The fact that all and carefully are not conjoined in (6a) shows that all is not a manner adverb. Note the following examples:

(7) a. The students have carefully and thoroughly read the book.
   b. *The students have carefully thoroughly read the book.
Sentences that contain a manner adverb can be paraphrased by converting the adverb into an adjective. This cannot be done with the quantifier *all*:

(8) a. The students have been careful to read the book well in advance of the test.
    b. *The students have been all to read the book well in advance of the test.

If floating quantifiers are not manner adverbs, could they be sentential adverbs? Sentential adverbs are more flexible in their positioning than manner adverbs and are more or less positionally interchangeable with floating quantifiers:

(9) a. The students have probably all read the book.
    b. ?The students have all probably read the book.

Nonetheless, floating quantifiers cannot be sentential adverbs. Sentential adverbs, as their name indicates, modify an entire proposition. This is why sentences with sentential adverbs can be paraphrased by converting the adverb to an adjective and using a cleft structure. This kind of paraphrasing does not work with a floating quantifier:

(10) a. It is probable that the students have read the book.
    b. *It is all that the students have read the book.

If floating quantifiers are not manner adverbs or sentential adverbs, are they perhaps subject-oriented adverbs? Subject-oriented adverbs, like manner adverbs, must be conjoined if they co-occur:

(11) a. The students rudely and stupidly insulted the teacher who helped them.
    b. *The students rudely stupidly insulted the teacher who helped them.

The quantifier *all* is not conjoined with a subject-oriented adverb:

(12) a. The investors have wisely all withdrawn their money.
    b. *The investors have wisely and all withdrawn their money.

Subject-oriented adverbs like *stupidly* and *clumsily* refer to a personal quality of the subject. The quantifier *all* does not do this. Also, subject-oriented adverbs, like sentential adverbs such as the one in (9a), have a strong tendency to precede a floating quantifier:

(13) a. The employees have stupidly all signed the agreement.
    b. */?The employees have all stupidly signed the agreement.

One can accept (13b) as grammatical if one considers the adverb *stupidly* not as a subject-oriented adverb but as a manner adverb, but it is difficult to imagine what it would mean to sign an agreement in a stupid manner. In any case, the fact that floating quantifiers tend to come after subject-oriented adverbs suggests that they are not subject-oriented adverbs. I must also point out that sentences with subject-
oriented adverbs can often be paraphrased by topicalising the adverb. This cannot be done with a floating quantifier:

(14) a. Stupidly, the employees signed the agreement.
    b. *All, the employees signed the agreement.

The data in (6) to (14) show that floating quantifiers do not behave like adverbs and cannot be categorized as any known adverbial type.

Sportiche (1988) noted the unsatisfying aspects of the Adverbial Analysis and developed a different approach to floating quantifiers. He argued that a floating quantifier was not an adverbial adjoined to a verbal phrase but a nominal inside of NP that ended up adjacent to a verbal phrase because it had been left behind or stranded when its complement moved to [SPEC, IP]. This approach came to be known as the Stranding Analysis. Sportiche referred to floating quantifiers as determiner quantifiers, implying that they select nominal phrases as their complement. The following diagram illustrates Sportiche's analysis:

(15)

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Sportiche’s theory had many attractive features. For one thing, it offered independent motivation for the VP-Internal Subject Hypothesis, which was being developed at approximately the same time that Sportiche was proposing the Stranding Analysis. Furthermore, the Stranding Analysis seemed to resolve all four of the problems with the Adverbial Analysis just presented. The relationship between (1a) and (1b) becomes immediately clear. The two sentences can easily be derived from the same base-structure. The “mystery” of why floating quantifiers show Case and Φ-feature agreement with other elements in the nominal domain also disappears, since the quantifiers themselves are nominal elements. The issue of the so-called anaphoric nature of floating quantifiers is also resolved. As the diagram in (15) illustrates, floating quantifiers do not have to be considered to be anaphora at all. They are simply stranded quantifiers that c-command the trace of the element that has stranded them. This explains why they retain scope over their complement even after being stranded. It also explains why example (5) is ungrammatical. In (5) a quantifier is located in a position that has never been occupied by the nominal phrase in which the quantifier was generated. The quantifier could therefore never have been stranded in that position. Finally, the
question of what kind of adverb a floating quantifier is and how it gets into its preverbal position is also eliminated by the Stranding Analysis.

Sportiche treated floating quantifiers as determiner-like adjuncts within a nominal phrase. Cardinaletti and Giusti (1989), although they were not addressing the issue of floating quantifiers, proposed the idea that a quantifier is actually a phrasal head and introduced the term Quantifier Phrase. Shlonsky (1991) put the final touches on the Stranding Analysis by proposing that a floating quantifier is a functional head that heads a Quantifier Phrase and selects a DP as its complement. Under this approach the complement DP can strand the quantifier in QP when it moves up to a higher position:

(16)

When I use the term Stranding Analysis in this thesis, I mean an analysis in which a quantifier heads a QP, selects a DP as its complement, and can be optionally stranded by that complement in QP when the complement moves to subject position. In this way, examples (1a) and (1b) are derived from a common source.

Given the empirical evidence that supports the Stranding Analysis, and given the fact that the Stranding Analysis resolved the problems created by the Adverbial Analysis and provided additional support for the VP-Internal Subject Hypothesis, one would have expected it to become the generally accepted standard analysis for floating quantifiers. This is not the case. Some linguists have adopted the Stranding Analysis, notably Giusti (1990 and 1994), but since the mid-1990s there has been a strong tendency to return to analyses in which floating quantifiers are base-generated in adverbial positions, as adjuncts to verbal phrases, outside the nominal domain. For example, Baltin (1995), Doetjes (1997), Benmamoun (1999), Kobuchi-Philip (2003b), Bošković (2003), Bošković (2004) and Fitzpatrick (2006) have all argued for the Adverbial Analysis of floating quantifiers. They cite examples in which the Stranding Analysis seems to be unable to explain why a quantifier can or cannot appear in certain positions that should theoretically be available for stranding. Let’s take a simple example. If one assumes, as it was normal to assume at the time when the Stranding Analysis was developed, that passive subjects and the subjects of unaccusative verbs are base-generated as complements of V like direct objects, then the Stranding Analysis incorrectly predicts the grammaticality of the following sentences:
(17) a. *The people have arrived all.
b. *The people were seen all.

This problem was noted by Sportiche himself and by others, including Baltin (1995) and Bobaljik (2003). The problem is that Baltin, Bobaljik and other critics of the Stranding Analysis do not consider certain innovations that have come about in linguistic theory during the past several years, some of which have serendipitously aided the Stranding Analysis. An important example is the Split VP Hypothesis, which originated in Larson (1988). I will discuss this hypothesis in more detail in the next section of this chapter. For now I will simply point out its immediately relevant aspects.

The Split VP Hypothesis began with the claim that there is a verbal phrase above VP called vP. This led to the idea that agentive subjects are base-generated in [SPEC, vP] rather than in [SPEC, VP] and direct objects, passive subjects and subjects of unaccusative verbs are base-generated in [SPEC, VP] rather than as complements of V. If one follows this approach, the Stranding Analysis does not make any false predictions about (17). On the contrary, it correctly predicts the ungrammaticality of the sentences in (17), in which the quantifier is located below its base-position. Another development that has serendipitously helped the Stranding Analysis is the Split IP-Hypothesis that originated in Pollock (1989). This hypothesis led to the introduction of a new functional category for subject agreement, AgrSP, which effectively created an additional position for stranding. The same can be said of the introduction of AgrOP, a functional category for object agreement developed in Chomsky (1995).

As I will show during the course of this thesis and especially in Chapter 5, in spite of serendipitous improvements to the Stranding Analysis, it is still faced with unresolved issues. The issues faced by the Adverbial Analysis have not gone away, either. The debate between proponents of the Stranding and Adverbial Analyses is thus far from over, and this brings me to the purpose of this thesis.

There is only one way to resolve the debate between followers of the Adverbial Analysis and the followers of the Stranding Analysis, and that is to look at a lot more empirical data. That is precisely what I intend to do in this thesis. I will take the reader through a large variety of different sentential and phrasal constructions in several languages in the Germanic and Romance language families. We will look at active sentences, passive sentences, sentences that contain as many as five different verbal elements, sentences with raising verbs, sentences with control verbs, sentences with small clauses, sentences with relative clauses, sentences with remnant movement, sentences with A-movement, sentences with A-bar movement, and sentences with the continental West Germanic infinitivus pro participio (IPP) construction.

Not only will we look at floating quantifiers in all of these constructions, we will also analyse the effect that negation can have on each construction when a floating quantifier is involved. This is extremely important because the literature has
completely ignored the role that negation can play in the phenomenon of floating quantifiers. By analysing the effect of negation within the framework of the Stranding Analysis, I will be able to offer explanations for facts that have heretofore not been explained. One example is the fact that when a universal quantifier co-occurs with negation, the Germanic languages allow two readings while the Romance languages allow only one, as the following examples from English and Italian demonstrate:

(18) All the students have not read the book. \[[\neg > \forall], [\forall > \neg]\]

(19) Tutti gli studenti non hanno letto il libro. \[[\forall > \neg]\]

Another example of something that has never been explained but that I will explain is the fact that negated quantifiers can be stranded in the Germanic languages but not in the Romance languages, as the following English and Italian examples show:

(20) a. The students have not all read the book.

   b. *Gli studenti hanno letto non tutti il libro.

I will also look at another kind of floating quantifier that has been badly ignored in the literature, and that is what I call the universal numeric quantifier, which can also be floated when negated. This is exemplified in the following Dutch sentences:

(21) a. Alle drie de studenten hebben het boek gelezen.

   b. De studenten hebben alle drie het boek gelezen.

(22) a. Niet alle drie de studenten hebben het boek gelezen.

   b. De studenten hebben niet alle drie het boek gelezen.

My approach will be to go thoroughly and methodically through all the data from the standpoint of the Stranding Analysis to see how far this analysis can take us. This will be done in the first four chapters. In Chapter 5 we will look at some of the more important adverbial approaches that have been presented in recent years and see how they fare against the Stranding Analysis. What we will see is that the Stranding Analysis is much more successful in explaining quantifier float than has been argued in recent years. I will also show that none of the adverbial approaches proposed in recent years is without its flaws. My conclusion will be that quantifier...
stranding is a real occurrence in language and that the Stranding Analysis should not be discounted. Nonetheless, I will also conclude that some instances of quantifier float are best explained under an adverbial approach. The Stranding Analysis and the Adverbial Analysis are therefore not necessarily mutually exclusive approaches to floating quantifiers, but may actually complement each other.

This thesis contains six chapters, including this introductory chapter. In the remainder of this chapter I will lay out the theoretical foundations of the arguments that I will be making in the following chapters. In Chapter 2, I present data from five different languages that provide evidence for the validity of the Stranding Analysis. Chapter 3 is basically a continuation of Chapter 2, but it expands the scope of Chapter 2 by extending the analysis to the badly neglected subject of floating negated quantifiers such as not all and its equivalents in other languages. In Chapter 4, I deal with another topic that has received very little attention in the literature, namely floating universal numeric quantifiers such as all three and its cross-linguistic equivalents. I will present my own theory of floating universal numeric quantifiers within the framework of the Stranding Analysis. In Chapter 5, having already presented the strengths of the Stranding Analysis in Chapters 2, 3 and 4, I present the Adverbial Analysis and evaluate its strengths and weaknesses vis-à-vis the Stranding Analysis. Chapter 6 contains a summary and conclusions and some suggestions for future research.

Before moving on to the discussion of the Stranding Analysis and the Adverbial Analysis in the following chapters, it is necessary that I make the reader familiar with the underlying theoretical assumptions upon which I will base my arguments. I will do this in the remainder of this introductory chapter, which I have divided into three sections. In Section 1, I present my arguments and assumptions regarding the base-positions of subjects and objects and the hierarchical structure within the verbal domain. In Section 2, I present my views on the hierarchical structure within the nominal domain and the internal structure of DP. In Section 3, I present an overview of my theory of constituent negation (in this case quantifier negation).

1. Base Positions of Subjects and Objects and the Hierarchy in the Verbal Domain

If one follows the Stranding Analysis and assumes that floating quantifiers are nominal elements base-generated inside a nominal phrase such as QP, then the most fundamental question is this: Where is the base-position of subjects and objects? Only by answering this question can one begin to determine which position or positions quantifiers can be stranded in. With the introduction of the VP-Internal Subject Hypothesis in Kitagawa (1986) it became more or less standard to consider subjects to be base-generated in [SPEC, VP] and objects to be complements of V:
Shortly after the introduction of the VP-Internal Subject Hypothesis, theoreticians began to argue for the existence of another verbal phrase above VP, which has been called vP. This analysis, referred to as the Split VP Hypothesis, began with Larson (1988) and has been further pursued in Sportiche (1990), Koopman and Sportiche (1991), Chomsky (2000), Grewendorf (2002), Adger (2003) and elsewhere. Under this widely accepted approach, verbs move from V to v if they are transitive or causative. Also, the base-position of agentive subjects is [SPEC, vP] rather than [SPEC, VP] and direct objects are base-generated in [SPEC, VP] rather than as complements of V.

There are a number of good arguments in support of the Split VP Hypothesis. It can account for ditransitive structures such as John gave Mary a book within a binary branching system by base-generating the first or primary object in [SPEC, VP] and the second object as the complement of the verb. This approach also correctly predicts that in most languages that have ditransitive structures it is only the primary object, the object in [SPEC, VP], that can be passivised.

Another advantage in the Split VP Hypothesis is that it helps us to more easily deal with transitivity and causativity, which involve agentivity. By postulating that vP is the location where transitivity and causativity originate and where the corresponding 0-roles are assigned, we can differentiate between agentive verbs and non-agentive verbs in a formal way. This is especially useful in explaining structures found in many languages that involve the incorporation of one verb into another one to form a causative verb. This incorporation process can be explained as movement of V to v. Adger (2003) and Baker (1988) contain descriptions of causative structures that involve incorporation.

Yet another advantage in base-generating subjects in [SPEC, vP] and direct objects in [SPEC, VP] is the fact that if direct objects originate in [SPEC, VP], when they move to [SPEC, AgrOP] they move from SPEC to SPEC rather than from a complement position to a SPEC position. For this reason and the reasons discussed in the preceding two paragraphs, I assume that agentive subjects are base-generated in [SPEC, vP] while direct objects, passive subjects and unaccusative subjects are base-generated in [SPEC, VP].

Besides the assumptions on the base-positions of subjects and objects discussed above, there are other assumptions that are essential to a discussion of floating quantifiers. Consistent with Chomsky (1995), I assume that in passive and
unaccusative structures verbs do not move from V to v, since there is no agent and thus no θ-role to be assigned in [SPEC, vP] in these instances.

Following Den Besten (1983) I also assume that in V2 languages such as German, Dutch and Swedish the V2 effect is obtained by movement of V to C and some other element, usually the subject, to [SPEC, CP].

Following traditional X-bar Theory as originally developed in Chomsky (1970) I assume that every verbal projection has both a specifier and a complement position. I also assume, as is customary in the literature, that each verbal element in a sentence has its own projection. For example, a Perfect auxiliary such as have in English, haben in German or avere in Italian is the head of a Perfect Phrase, a Progressive auxiliary such as be in English or stare in Italian heads a Progressive Phrase, modal verbs such as the English must, the German müssen and the Italian dovere head a Modal Phrase, and a passive auxiliary such as the English be, the German werden and the Italian essere heads a Passive Phrase.

Regarding Germanic OV languages, I follow the approach which initiated with Bach (1962) and Koster (1975), and which still has many followers, whereby German and Dutch are underlingly OV languages. This is in opposition to the claim made, for example, in Kayne (1994) and Zwart (1997) that all languages are underlingly VO and that OV word order is derived. The claim that German and Dutch are underlingly OV implies that these languages are head-final and left-branching in the verbal domain, so that specifiers and complements are both to the left of the head of a verbal phrase:

(24)

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  VP
    SPEC   V
      XP   V
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Under this approach, verbal heads move rightward “up the tree” and their specifiers move leftward. The result is that the verbal elements form a sort of cluster at the end of a clause and non-verbal elements cannot be found between them.

In order to accommodate sentences with several verbal elements, such as All the children may have been watching the movie and All the patients may have been being examined by the doctor I will assume the following hierarchical structure, in which each phrase has a SPEC and complement position:
The structure in (25) is the one that I need in order to present my arguments. This is not to say that it is etched in stone. One might claim, for example, that some of the categories, such as AgrSP and AgrO, are not always necessary, or that certain categories are missing, such as Focus. One could even claim that the order of the elements is different or can vary. It would be beyond the scope of this thesis to enter a debate on the hierarchy in the verbal domain. The point is that I need all of the categories in (25) to make my arguments. Especially important are the VP/vP distinction, the idea that each verbal element heads its own phrase, and the idea that each phrase has a specifier and a complement.

Before moving on to the next section I would like to address the question of whether or not a hierarchy such as (25) implicitly predicts that all phrases in the hierarchy can be occupied at once. In languages such as English and Spanish, they can. In Italian, which possesses the same verbal categories as English and Spanish, there are certain combinations that are simply not allowed. For example, progressives can combine with modals and passives in Spanish and English but not in Italian. Examples will be given in Chapter 2. It would be outside the scope of this thesis to offer reasons for language-specific variation like this. I simply want to point out that I am going to assume that the fact that in some languages the hierarchy in (25) cannot be fully occupied does not mean that it is invalid. In other words, by positing a hierarchy, I am making a statement about the order in which elements co-occur with respect to each other. I am not claiming that all positions in the hierarchy can be occupied at once. In support of this assumption I refer to the adverbial hierarchy proposed in Cinque (1999). There is plenty of empirical support for Cinque’s hierarchy, since the order in which adverbial types can appear with respect to other adverbial types is generally quite fixed. However, a sentence in which all the
adverbial categories are occupied at once is unimaginable. This does not mean that the hierarchy is invalid.

With that background on the verbal domain, I will now state my assumptions regarding the hierarchy in the nominal domain and the internal structure of DP.

2. The Hierarchical Structure in the Nominal Domain

Since under the Stranding Analysis a quantifier heads a QP and selects a DP as its complement, it is very important to understand what DP is and how it is structured. I assume that the nominal domain, like the verbal domain, consists of a hierarchy of phrases that in turn consist of a head, a specifier and a complement. The hierarchy seems to consist of the following rankings:

(26) a. Determiner > Cardinal Numeral > Adjective > Noun  
    b. Possessive > Cardinal Numeral > Adjective > Noun

The following phrases from English and German illustrate this hierarchy:

(27) a. The three little pigs…  
    b. Her four young children …

(28) a. Die drei kleinen Schweinchen… 
    the three little pigs
    b. Ihre vier kleinen Kinder… 
    her four little children

It has been argued in the literature, for example in Schoorlemmer (1998), that possessive pronouns in the Germanic languages and in Romance languages such as French and Spanish are inherently definite and consequently move to the determiner position. I support this claim. This means that the (b) sentences in (27) and (28) have the same structure as the (a) sentences in that there is something occupying D. In Romance languages such as Italian, Portuguese and Romanian, possessive pronouns are not inherently definite and do not move to D. The result is that possessive pronouns in these languages co-occur with definite and indefinite determiners. The following phrases from Italian illustrate this:

(29) a. Il mio amico…  
    the my friend
    b. Un mio amico…  
    a my friend

This means that the hierarchies in (26a) and (26b) can be collapsed as follows:

(30) Determiner > Possessive > Cardinal Numeral > Adjective > Noun
The following Italian phrase confirms this hierarchy:

(31) I miei quattro migliori amici…
    the my four best friends

Since a quantifier selects a DP, the following represents the complete nominal hierarchy:

(32) $Q > D > Poss > CardNum > A > N$

The same comments that I made about the verbal hierarchy in (25) are also applicable to this nominal hierarchy. Many linguists have posited several other positions in the nominal hierarchy and have supported their claims. In Giusti (1993), for example, there is a Focus position inside QP/DP, and there is more than one QP node, which allows floating quantifiers to be distinguished from other kinds of quantifiers, including numerals. Similar more complex analyses of the nominal domain can be found in Sleeman (1996) and elsewhere. I only wish to point out that (32) is the minimal hierarchy that I need in order to present my arguments. Also, as I pointed out at the end of the last section, positing a hierarchy implicitly predicts that since all of the phrasal categories in that hierarchy exist, they should all be able to be occupied at once. In the Germanic languages, apart from the fact that determiners and possessive pronouns do not co-occur, it does seem possible to have something in every position, as the following German phrase demonstrates:

(33) Alle die/seine vier klugen Kinder…
    all the/his four bright children

In Italian, however, if all six phrasal head positions are occupied at once, speakers reject the phrase as being overladen. Filling five positions is fine, but filling six is too much:

(34) a. Le sue due bianche mani…
    the her two white hands

b. Tutti i miei dieci anni dedicati alla scienza…
    all the my ten years dedicated to science

c. Tutte le sette belle ragazze…
    all the seven pretty girls

d. Tutte le mie belle amiche…
    all the my pretty girlfriends

e. */?Tutte le mie sette belle amiche…
    all the my seven pretty girlfriends
It is not immediately clear why the (e) sentence is unacceptable and it would be
beyond the scope of this thesis to open a discussion on this now. I will simply
reiterate the assumption that I made in the last section while discussing the
hierarchy in the verbal domain, namely, that a hierarchy such as (32) cannot be said
to be invalid just because it cannot be completely filled. The purpose of the
hierarchy is to establish the order in which different nominal elements appear with
respect to each other.

I have posited the nominal hierarchy in (32) and have claimed that each phrase has
a head, specifier and complement. In other words, quantifiers, determiners,
possessive pronouns, numerals, adjectives and nouns are all nominal heads. The
question is whether there is a way to determine that they are actually all heads.
There is indeed evidence that these nominal elements are all heads, and that is the
fact that they agree with each other in Φ-features and Case. The following sentence
from Neapolitan contains all six nominal categories and all of them, even the
numeral, show Φ-feature agreement:

(35) Tutte e ddoje ’e ccriature sòje songo allere.
    all and two the children her are happy

The following Latin sentence also contains all six nominal categories, and they show
not only Φ-feature agreement but Case agreement as well:

(36) Agrippina lexit totos tres bonos libros meos.
    Agrippina read all three good books my
    Masc Masc Masc Masc Masc.
    ACC ACC ACC ACC ACC

The claim that heads in the nominal domain agree in Case and Φ-features is
significant. It implies that if a nominal element does not agree with the other
nominal elements in Case and Φ-features, it is not a head but a specifier. I raise this
issue because it has been argued that genitives such as John’s and possessive
pronouns such as his are base-generated in the same place and have the same final
example, it is claimed that both genitives and possessive pronouns are base-
generated in [SPEC, NP], where they are assigned their θ-role, and then move to
[SPEC, DP], where they are assigned genitive case. One could also take the
opposite approach. Instead of arguing that possessive pronouns and genitives are
both specifiers, one could claim that they are both syntactic heads located in D. This

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2 This sentence is obviously my own, but I am confident that it is grammatical. The existence of the
universal quantifier/numeral combination totos tres (nominative toti tres) is documented. See Menger
(1892). What is important here is that nominal categories that occupy head positions, including numerals,
agree in Case and Φ-features.
could be argued based on the observation that in the Germanic languages prenominal genitives and possessive pronouns do not co-occur with determiners.

There is of course another way to approach genitives and possessive pronouns, and that is to say that they are not in the same position. Den Besten (2006) and Schoorlemmer (1998), for example, treat possessive pronouns as heads and genitives as specifiers. I will now present evidence in support of this latter view by showing that genitives and possessive pronouns have neither the same base-position nor the same final landing site. I will conclude that genitives are maximal projections that originate in [SPEC, NP] and move to [SPEC, DP] while possessive pronouns are the heads of PossP. I will also show that the possessive dative constructions found in German and Dutch can be handled in the same way as genitives. My arguments will be based on Case, Φ-feature agreement, θ-role assignment and co-occurrence. I begin with arguments related to Case.

A true genitive such as the one found in languages like German, Russian and Latin is clearly an inflection for genitive case. Furthermore, this case remains the same regardless of the case of the noun associated with that genitive form. Take the following sentences from German:

\[(37)\]
\[
\begin{align*}
(37a) & \quad \text{Die Königin hat [des Königs Bruder] gesehen.} \\
& \quad \text{the queen has the king’s brother seen} \\
& \quad \text{b. Die Königin hat [seinen Bruder] gesehen.} \\
& \quad \text{the queen has his brother seen}
\end{align*}
\]

\[(38)\]
\[
\begin{align*}
(38a) & \quad \text{Die Königin hat [des Königs Bruder] einen Kuß gegeben.} \\
& \quad \text{the queen has the king’s brother a kiss given} \\
& \quad \text{b. Die Königin hat [seinem Bruder] einen Kuß gegeben.} \\
& \quad \text{the queen has his brother a kiss given}
\end{align*}
\]

In (37a) the noun \textit{Bruder} (\textit{brother}) is in the accusative case, since it is the direct object of the verb \textit{gesehen} (\textit{seen}). The DP \textit{des Königs} (\textit{the king’s}) is in the genitive case. Example (37b) is the same as (37a) except that the genitive DP \textit{des Königs} has been replaced with the possessive pronoun \textit{seinen} (\textit{his}). The morphology on this possessive pronoun shows that it is in the accusative case like the noun it modifies,  

\footnote{A prenominal genitive such as the one in this sentence sounds archaic and unnatural if not ungrammatical. It is normally found only in fairy tales, poetry and biblical passages. Otherwise genitives occur post-nominally. The prenominal form is used here only for ease of presentation. This genitive form should not be confused with the Saxon genitive, which is also represented by an –s attached to a noun. The Saxon genitive differs from the masculine singular genitive form in (37) and (38) in three ways. First of all, it can naturally occur in prenominal position, as in \textit{Peters Haus} (\textit{Peter’s house}). Secondly, it can be attached to feminine as well as masculine nouns, as in \textit{Marias Haus} (\textit{Mary’s house}). Thirdly, it is normally used only with proper nouns and names. For a discussion see Weerman and De Wit (1999). The analysis that I am proposing here in order to distinguish genitives and possessive datives from possessive pronouns is valid for the Saxon genitive as well.}
not the genitive case. If the genitive DP in (37a) and the possessive pronoun in (37b) were the same type of element and occupied the same position, one would expect their Case to be the same. After all, Case is very much position-dependent.

The examples in (38) illustrate exactly the same phenomenon. In (38a) the noun Bruder (brother) is in the dative case, since it is the indirect object of the verb gegeben (given). The DP des Königs (the king’s) is in the genitive case. Example (38b) is the same as (38a) except that the genitive DP des Königs has been replaced with the possessive pronoun seinem (his). The morphology on this possessive pronoun shows that it is in the dative case like the noun it modifies, not the genitive case.

To summarise, examples (37) and (38) show that genitive DPs retain their case regardless of the case of the noun that they modify, while possessive pronouns agree in case with the noun they modify. Therefore, genitives and possessive pronouns are not the same type of category and do not occupy the same position. The implication is that possessive pronouns and nouns are both heads while genitives must be specifiers.

Having looked at Case, let’s now look at $\Phi$-feature agreement and see what it tells us about possessive pronouns and genitives. By analysing the $\Phi$-feature agreement patterns of genitives and possessive pronouns, I will show not only that these two elements occupy different positions but also that genitives can be analysed in the same manner as possessive datives, which occur in the continental West Germanic languages. I assume, consistent with Den Besten (2006), that a possessive pronoun moves from Poss to D and that it requires an empty category in [SPEC, DP] as its antecedent for co-indexation purposes. I also assume that this empty category originates in [SPEC, NP], where it is assigned a $\theta$-role, and then moves cyclically to [SPEC, DP] for genitive case:
More will be said about this empty category shortly. With that background, consider the following German sentences:

(40)  Weil ihr fünf Mädchen [des König -s Töchter] seid…

because you five girls the king ’s daughters are

GEN   GEN   NOM
Sing.   Sing.   Plur.

(41)  Weil ihr fünf Mädchen [(e)      seine      Töchter] seid…

because you five girls (e)    his    daughters    are

GEN   NOM   NOM
Masc.   Fem.   Fem.
Sing.   Plur.   Plur.

In (40), the genitive ending shows /g₄₁-feature agreement with the noun König (king), which it is attached to. It shows no Φ-feature agreement at all with its supposed complement, Töchter (daughters). In (41), the possessive pronoun seine (his) does show Φ-feature agreement with its complement, Töchter (daughters). Once again, it appears that genitives and possessive pronouns cannot be the same type of element and cannot be located in the same position. This can only mean that the possessive pronoun seine (his) in (41) is in a head position while the genitive morphology in (40) is located in a SPEC position with the DP that it is attached to. I will now show that genitives and possessive datives can be accounted for in a unified manner.

Example (42) contains a possessive dative construction, which consists of a DP in the dative case and a possessive pronoun:

(42) [Dem Mann seine Töchter] sind schön.

the    man    his    daughters    are    pretty
DAT   NOM   NOM
Masc.   Fem.   Fem.
Sing.   Plur.   Plur.

The only difference between the possessive dative in (42) and the genitive in (40) is that in (42) there is a possessive pronoun in the head position of DP while in (40) there is an empty element in that position. It is logical to assume that the genitive DP in (40) and the dative DP in (42) both originate in [SPEC, NP], where they are assigned a θ-role, and then move to [SPEC, DP], where they are assigned Case. If one remains consistent with this approach one must also claim that the empty category in (41) also originates in [SPEC, NP], where it is assigned a θ-role, and moves to [SPEC, DP] for Case. I assume this to be so.

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4 From the unpublished fairytale Eva und Klara by Tamara Zaugg, Orientierungsschule Region Murten, Switzerland.
I would like to emphasise that the conclusion that possessive pronouns are heads and genitives and possessive datives are specifiers is really forced if we carefully consider the structure of (42). The dative case and morphology in (42) must be assigned and generated in the SPEC position occupied by the DP dem Mann (the man). There is no other place for this to happen, since the head position of the DP is occupied by a possessive pronoun. The genitive case in (40) is analogous to the dative case in (42) in its agreement pattern and must therefore also be in the SPEC position of the phrase. All this evidence reinforces the assumption that possessive pronouns are heads while genitives and possessive datives are specifiers, as claimed in Den Besten (2006) and Schoorlemmer (1998). I will not concern myself here with the manner in which Case is assigned in the SPEC position of DP, although I suspect that it is assigned structurally. Whether dative or genitive is assigned will depend not only on the language but on the register within a language, since the possessive dative is usually considered to be sub-standard and the genitive standard.

We now come to the third factor that I want to consider in this discussion of the differences between genitives and possessive pronouns, namely, 0-role assignment. I assume that genitives such as John’s in the phrase John’s house and possessive datives such as dem Mann in example (42) must be assigned a 0-role. They are clearly arguments (perhaps subjects) of the head noun, suggesting that their base-position is [SPEC, NP], and there is nothing inherently or lexically genitive about them that would make the assignment of a 0-role superfluous. The DP John should certainly receive the same 0-role in the following two sentences, and in the second sentence the noun house is the only possible source of a 0-role:

     b. John’s house is in England.

In (43b) and in (42) a 0-role can be assigned by the head nouns. This raises the question of how a possessive pronoun can receive a 0-role if it is not generated in [SPEC, NP] but is the head of PossP. I would argue that possessive pronouns are inherently or lexically possessive and have no need of a 0-role as such. They do need some type of antecedent for co-indexation and agreement purposes, but they have this. In (42), for example, the antecedent of the possessive pronoun is dem Mann, while in (41) it is a null-element.

Note that head nouns can assign 0-roles not only to specifiers but to complements as well, and that it must be possible for genitive case to be assigned in a complement position as well as in a SPEC position. The following German sentences illustrate:

(44)  a. Johanns Freunde haben angerufen.
     John’s friends have called

     b. Freunde Johanns haben angerufen.
     friends (of) John’s have called
It would be beyond the scope of this thesis to begin a discussion of this topic now. Let me just say that the idea that a noun can assign a θ-role to both a specifier and a complement and that Case can also be assigned in a complement position is nothing new, as the following German phrase from Lindauer (1998) shows:

(45) Kolumbus’ Entdeckung Amerikas
    Columbus-GEN discovery America-GEN
    (Columbus’s discovery of America)

The final factor that I want to consider in comparing genitives and possessive pronouns is the criterion of co-occurrence, since it is probably the best test for determining whether or not two items occupy the same position. If two things can co-occur, then they are most probably in different positions and not the same thing. In Icelandic, possessive pronouns and the Saxon genitive co-occur, as can be seen in the following phrase from Delsing (1993):

(46) hús-ið hans Jón-s
    house the his John-GEN

In this section I have laid out my arguments and assumptions on the nominal domain. The most important idea is that under the Stranding Analysis floating quantifiers are nominals that head a QP and select a DP. Inside of DP there is the following hierarchy:

(47) D
    Poss
    CardNum
    A
    N

Furthermore, I have offered evidenced based on four different criteria that possessive pronouns are syntactic heads while genitives and possessive datives are specifiers. This approach has many advantages. It explains the differences in Φ-feature and Case agreement patterns that I have shown, it explains why possessive pronouns do not require a θ-role, it explains why in some languages possessive pronouns and genitives can co-occur, and it allows us to analyse genitives and possessive datives in a unified manner.

Before moving on to the next chapter it is necessary to introduce the reader to the concept of constituent negation as it applies to floating quantifiers. This is especially important given that I will be discussing floating negated quantifiers in Chapter 3.
3. Constituent Negation

The subject of floating quantifiers has come up often enough in the literature, but the subject of negated floating quantifiers has been ignored:

(48)  a. Not all the students have read the book.
    b. The students have not all read the book.

In Chapter 3 I will present an in-depth analysis of quantifier negation in the Germanic and Romance languages and propose my own hypothesis. In the meantime there are certain basic things that the reader needs to know about how I will approach this subject. My hypothesis of constituent negation (in this case quantifier negation) is basically an adaptation of the theory of sentential negation in Zeijlstra (2004). In Zeijlstra (2004), it is argued that negation is not universally a functional category. In the Romance languages, sentential negation is a functional category and there is a Negation Phrase that is headed by the negation marker and dominates all verbal phrases:

(49)\[
\begin{array}{c}
\text{NegP} \\
\text{SPEC} \\
\text{Neg'} \\
\text{Neg} \\
\text{vP}
\end{array}
\]

In the Germanic languages, however, sentential negation is not a functional category. There is no NegP and the negation marker is not a head but a maximal projection occupying the SPEC position of the highest verbal element in a clause. The following diagram shows how this works. AgrSP and TP are collapsed into IP for ease of presentation.

(50)\[
\begin{array}{c}
\text{IP} \\
\text{SPEC} \\
\text{Spring}_{1} \\
\text{I'} \\
\text{I} \\
\text{PerfP} \\
\text{SPEC} \\
\text{Perf'} \\
\text{not} \\
\text{Perf} \\
\text{t}_{2} \\
\text{SPEC} \\
\text{VP} \\
\text{V'} \\
\text{V} \\
\text{sprung}
\end{array}
\]
My approach to constituent (quantifier) negation is consistent with Zeijlstra’s theory of sentential negation. In the Germanic languages, I claim that the negation marker in a negated quantifier is a specifier inside QP, as in (51). The reason for positing two specifier positions in QP will be made clear in Chapter 3.

(51) 

In the Romance languages, since the negation marker is a head rather than a maximal projection, I claim that it cannot be base-generated inside QP. The structure in (51) is therefore not possible in the Romance languages. The prediction that follows from this claim is that the stranding of negated quantifiers should not be possible in the Romance languages even though it is possible in the Germanic languages, as shown in (48). This prediction is borne out, as the following examples from Italian, Romanian, Portuguese and Spanish demonstrate:

(52) a. *Gli studenti hanno letto non tutti il libro.
    the students have read not all the book

    b. *Studenții au citit nu toți cartea.
       students the have read not all book the

    c. *Os alunos têm lido nem todos o livro.
       the students have read not all the book

    d. *Los alumnos han leído no todos el libro
       the students have read not all the book

I will go into much more detail on negated quantifiers in Chapter 3. What is important for the time being is that the reader understand that in the Germanic languages negation markers are specifiers while in the Romance languages they are heads, with the result that negated quantifiers can be stranded in the Germanic languages but not in the Romance languages.

I have now provided the reader with the theoretical foundations for the arguments that I will make in this thesis. We are now ready to begin looking at data and formulating hypotheses. In the next chapter, we will be examining data from five languages that support the Stranding Analysis of floating quantifiers.